UMODPC

RAIL OPERATIONS

UMODC01

References

FM 3-35.4, *Deployment Fort-To-Port*

FM 4-01.011, *Unit Movement Operations*

FORSCOM/ARNG Regulation 55-1, *Unit Movement Planning*

TM 55-2200-001-12, *Application of Blocking, Bracing, Tiedown Materials for Rail Transport*
TEA PAM 55-19, *Tie-Down Handbook for Rail Movements*

TB 55-46-1, *Standard Characteristics for Transportability of Military Vehicles and Other Outsize/Overweight Equipment*

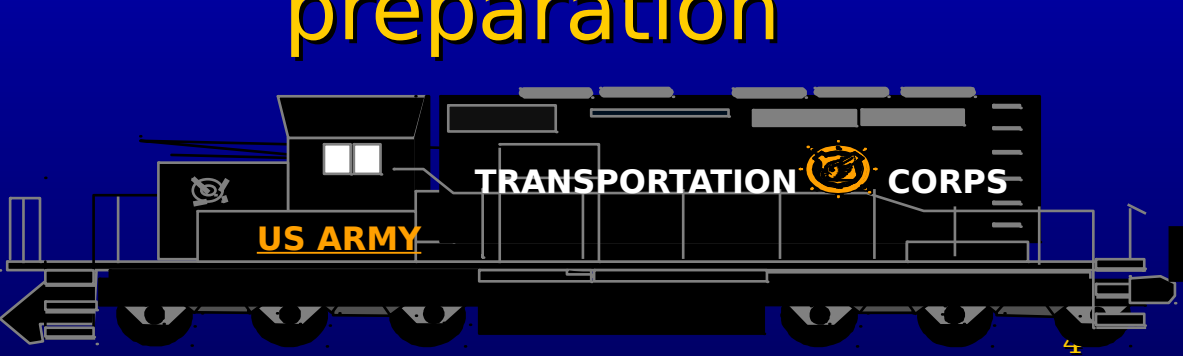
Surface Transportation

- What if unit equipment is non-roadable?.... or is beyond organic lift capability?

…Then you must depend upon commercially provided service ….
….. like rail!

Responsibilities -- General

- The deploying unit & installation both have planning and execution responsibilities for major rail activities
  - Rail loading/unloading
  - Rail site preparation
  - Restraining Material
  - Rail car inspection



Unit Responsibilities

- **Unit commander:** Overall responsibility for preparing unit for rail operations
- Major unit responsibilities:
  - Prepare rail movement **plan**
  - Submits **movement requirements** to the ITO (AUEL to DEL/OEL to UDL)
  - Prepare **equipment** for rail movement
  - **Load** railcars (under the technical supervision of the UMC)

Ref: FM 3-35.4, p.H-2

Unit Responsibilities (Cont)

- Specific responsibilities:
  - Appoint an **OIC** for the rail operation
  - Designate **safety officer**
  - Coordinate with Director of Public Works for blocking and bracing material
  - Provide trained **load teams**

Unit Responsibilities (Cont)

- Ensure vehicles are **properly prepared/confi**
  - Removing canvas and bows
  - Securing moving vehicle parts
    - Packing, crating, banding, and blocking and bracing secondary loads
      Use FORSCOM/ARNG 55-1 & SDDCTEA Pam 55-19
- Coordinate logistical support for railhead ops
  - Lighting, latrines, mess, and medical

Unit Responsibilities (Cont)

- Ensure tie-down teams have proper equipment
- Stage equipment
- Ensure sufficient numbers of cars are spotted
- Inspect rail cars
- Conduct safety briefings
- Prepare rail cars for loading
- Load and tie-down equipment on rail cars
- Provide all required HAZMAT documentation to ITO

Ref: FM 4-01.11, p.3-2/3

Installation Transportation Office Responsibilities

- **Orders rail cars** based on the deploying unit's requirements
- Computes railcars based on the shipping configuration of the equipment (need accurate DEL/UDL) and prepares
- Official **liaison** with SDDC and the railway agency
- Designates installation load-out staging area
- Government Bill of Lading
- **Joint Inspection** of railcars with railroad rep (for serviceability) prior to loading commencing
- Provides **technical advice** to units on blocking, bracing and tie down material

Ref: FM 3-35.4, p.H-2 and FM 4-01.011,p.3-3

Installation Transportation Office Responsibilities (Cont)

- Provide spanners as required
- Notifies the Unit on type and quantity of railcars, and railcar arrival schedule (cognizant of scheduled arrival date as POE - as listed in TPFDD)
- Publishes/maintains rail loading schedule according to the movement order/directive
- Joint inspection or loaded railcars with railway agent to ensure compliance with Army Regulations, AAR loading rules, or host nation rail rules
- Provides DD Form 836,if necessary for HAZMAT

Ref: FM 3-35.4, p.3-3 and H-2

Director of Public Works (DPW)

- Provides B & B materials for deploying units.
- Deploying units must determine requirements & provide in advance to the DPW.
- Provides tools, potable end loading ramps and assistance as required

Ref: FM 3-35.4, p.H-2, FM 4-01.011,p.3-3 and FORSCOM ARNG Reg 55-1,

SDDC Responsibilities

- Obtaining the railcars and the routing from the railroad that is supporting the move. Advises ITO of route restrictions (height or weight)

- Units can request assistance through the SDDC Operations Center at Fort Eustis, VA

- Unit Movement Teams from Deployment Support Brigades (USAR) are available to be dispatched to support unit preparation for movement

- Request SDDC assistance through the UMC/ITO

Ref: FM 4-01.011,p.3-3

Rail Carrier Representative Responsibilities

- Joint inspection with ITO rep before cars positioned at loading ramp
- Inspection following railcar loading to ensure:

  Loaded railcars comply with AAR rules

- Final approval authority for accepting the rail loads

OCONUS RAIL OPERATIONS

- A **Movement Control Team (MCT)** normally performs the functions associated with the installation (ITO [ordering railcars, liaison with HN railway agent, inspection of railcars, technical advice etc])
- **Area Support Group** or **Base Support Battalion** provide blocking and bracing material and tools/assistance as required
- Unit determines movement requirements and submits them to the MCT
- Deploying unit prepares equipment (cleans and configures) - cognizant or pertinent regulations if aries - and loads

Ref: FM 3-35.4, p.4-16 and FM 4.01.011, p.3-7/8

OCONUS RAIL OPERATIONS (cont)

- MCT unit manages railhead ops in the marshaling and staging areas
- Deploying units provide drivers, tie-down teams, safety monitors, and other support personnel as directed
- Deploying unit documents its equipment and personnel for rail transport
- MCT unit consolidates and coordinates all rail movement with other en route nations and the carrier
- When rail is the primary means of deployment, is the POE

Ref: FM 3-35.4, p.4-16

Rail Load Planning

- TC-ACCIS/TC-AIMS II provides automated rail load planning capability
- Use FORSCOM Form 285-5-R for manual load planning

REF: FORSCOM/ARNG Reg 55-1, p.30

Railcar Requirements

- Rail cars are obtained by ITO in the types and quantities required, based upon the deploying unit's requirements

- Deployment may be by commercial or 'DODX' railcars

The Official Railway Equipment Register


THE
OFFICIAL
RAILWAY
EQUIPMENT
REGISTER®

FREIGHT CONNECTIONS &
FREIGHT CARS OPERATED
BY THE RAILROADS
AND PRIVATE CAR COMPANIES
OF NORTH AMERICA

Vol. 115, No. 5 January 1998

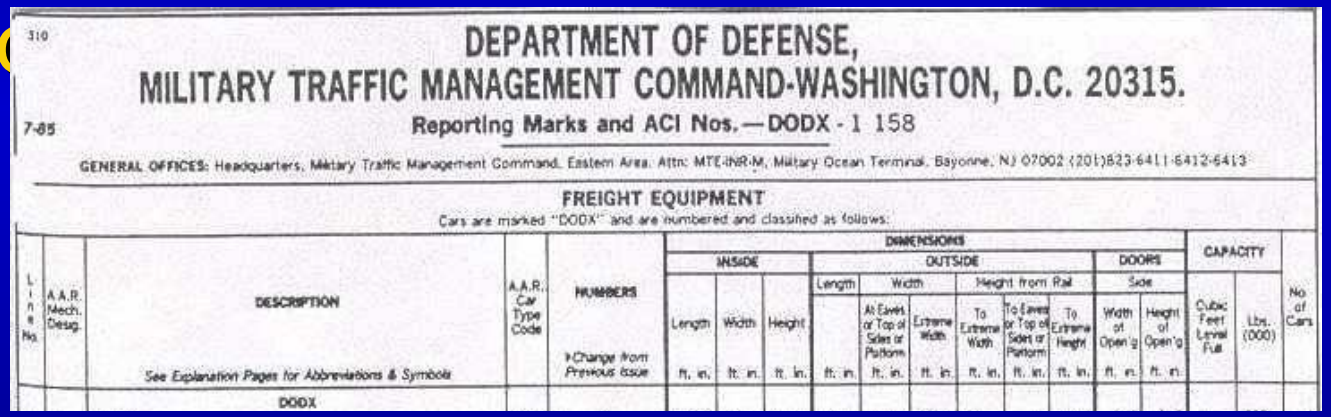
Filed quarterly with the Canadian Transport Commission, state commissions, and the Surface Transportation Board. The STB filing is in compliance with provisions of the ICC Termination Act of 1995.

ISSUED BY
R. E. R. PUBLISHING CORPORATION, Agent
R. Keenan, Managing Officer
10 Lake Drive, Hightstown, NJ 08520-3397

- The Official Railway Equipment Register is used to determine the type of rail cars needed, and their associated capacity and
- Excerpts for Trailer Train & DODX railcars contained in TM 55-2200-001-12

TM 55-2200-001-12

- TM 55-2200-001-12 (Appendix H-1), contains DODX table used to determine the types of DODX rail cars needed, and their associated c



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DEPARTMENT OF DEFENSE,
MILITARY TRAFFIC MANAGEMENT COMMAND-WASHINGTON, D.C. 20315.

7-85

Reporting Marks and ACI Nos.—DODX - 1 158

GENERAL OFFICES: Headquarters, Military Traffic Management Command, Eastern Area, Attn: MTE-INR-M, Military Ocean Terminal, Bayonne, NJ 07002 (201)823-6411-6412-6413

FREIGHT EQUIPMENT

Cars are marked "DODX" and are numbered and classified as follows:

Line No.	A.A.R. Mech. Desig.	DESCRIPTION	A.A.R. Car Type Code	NUMBERS	DIMENSIONS									DOORS		CAPACITY		No. of Cars
					INSIDE			OUTSIDE										
					Length	Width	Height	Length	Width			Height from Rail		Side		Cubic Feet Level Full	Lbs. (000)	
									At Eaves or Top of Sides or Platform	Extreme Width	To Extreme Width	To Eaves or Top of Sides or Platform	To Extreme Height	Width of Open'g	Height of Open'g			
		See Explanation Pages for Abbreviations & Symbols		▸Change from Previous Issue	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
		DODX																

- TM 55-2200-001-12 (Appendix G), contains information on commercial special-purpose railcars

Types of Trains

- **Carloads** (part of carrier regular train service) - average speed of 13 mph or 312 miles per day
- **Unit train** - additional train
  - If not carrying dimensional (high/wide loads) use an average speed of 22 mph or 528 miles per day
  - For dimensional **oad' speed** for plannir

Ref: FM 3-35.4, p.H-3/4

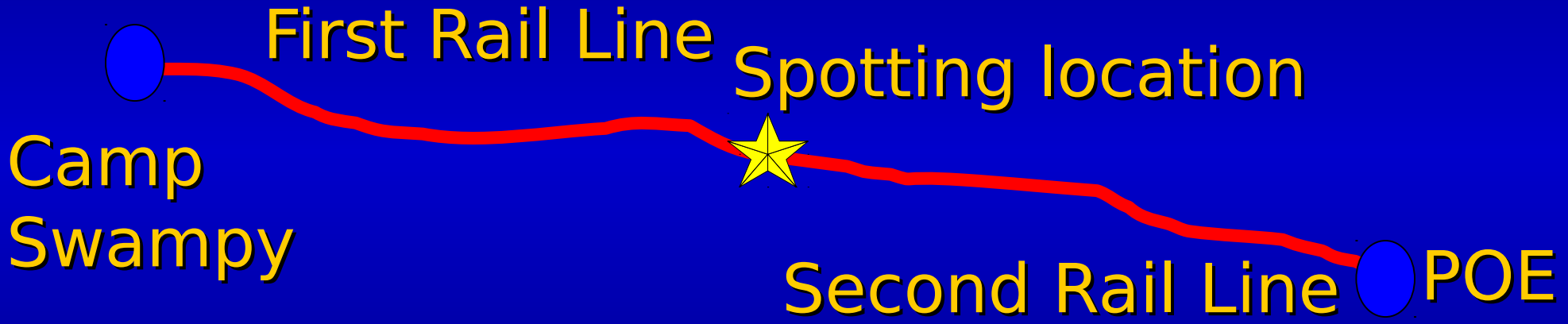
Railcars

- There are several **types of railcars** used for military exercises and deployments
  - **Open** Top Cars
    - Flat Cars
    - Gondolas

Railcars (Cont)

- **Closed** Cars
  - + Box car
- **Specialty** Cars
  - + Multilevel
  - + Heavy lift
  - + TOFC
  - + COFC

ITO Requests Rail Routing from SDDC



SDDC obtains routing from rail company selected


SUMMARY


QUESTIONS ???

On Learning

On Learning

Question 1: Who is responsible for obtaining rail cars for the deploying unit?

Answer 1: The Installation Transportation Officer

On Learning

Question 2: When railcars arrive on site, who is responsible for inspecting the railcars prior to accepting the cars from the rail carrier?

Answer 2: The ITO is responsible for the initial inspection prior to accepting the railcars

On Learning

Question 3: Who is responsible for providing the deploying unit with spanners for rail loading operations?

Answer 3: The Installation Transportation Officer.

On Learning

Question 4: What established rules govern all rail movements in CONUS?

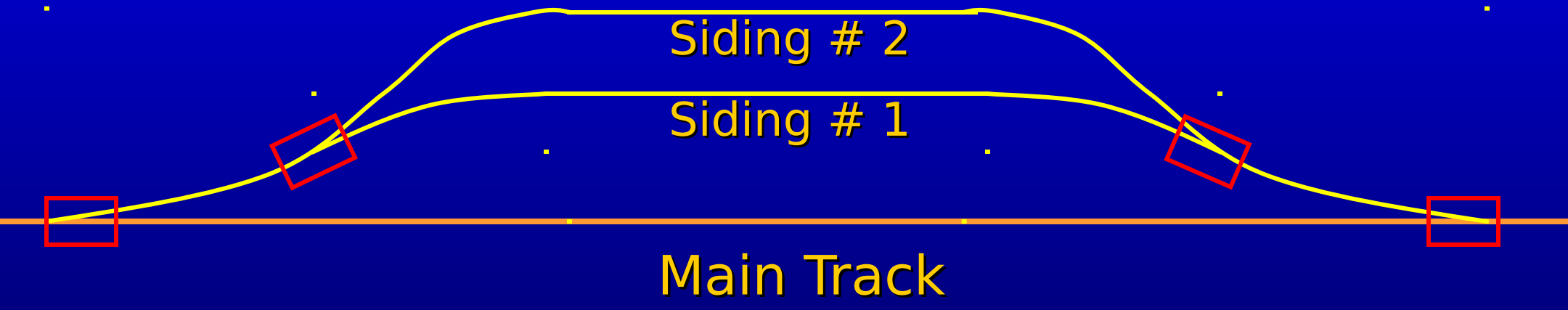
Answer 4: Association of American Railways (AAR) rules

RAILWAY FACILITIES AND EQUIPMENT


RAILWAY
FACILITIES

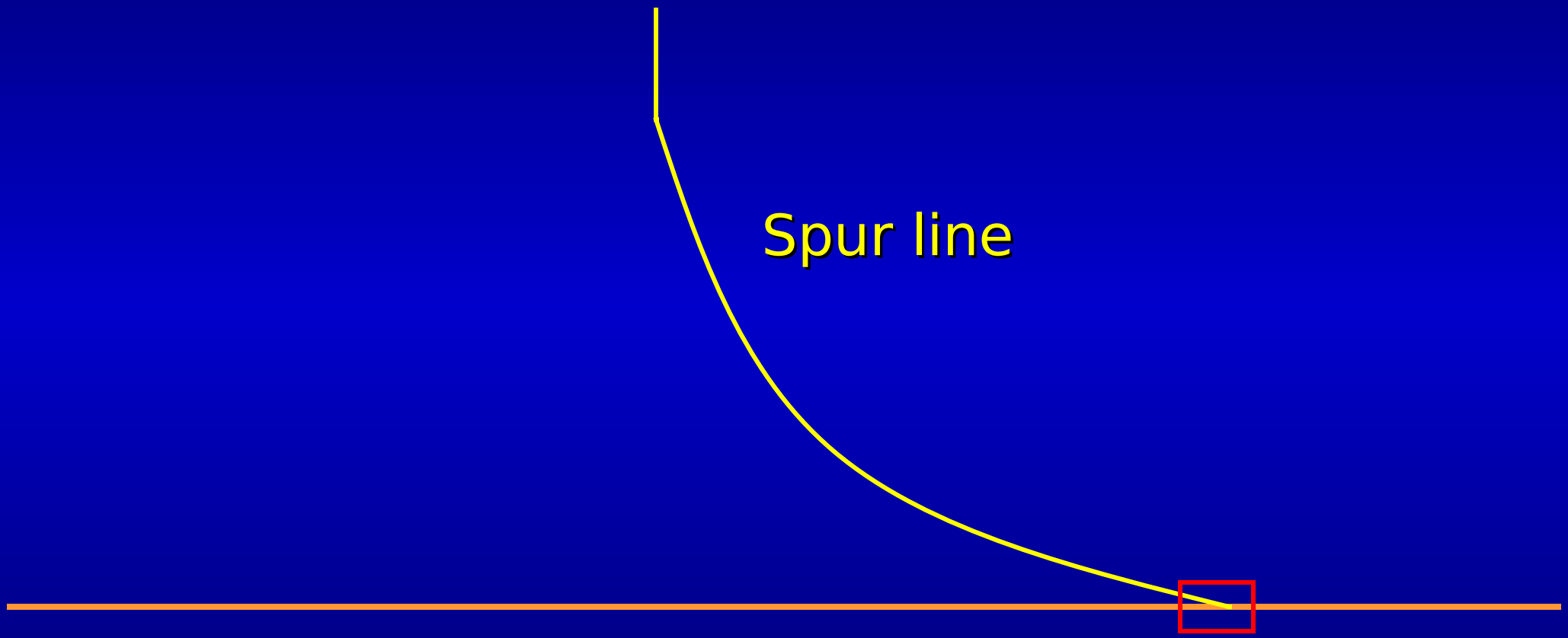
Railyards & Tracks

Sidings



= Switch

Spur



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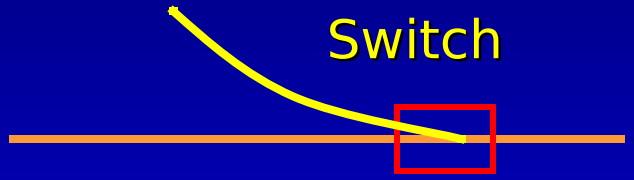
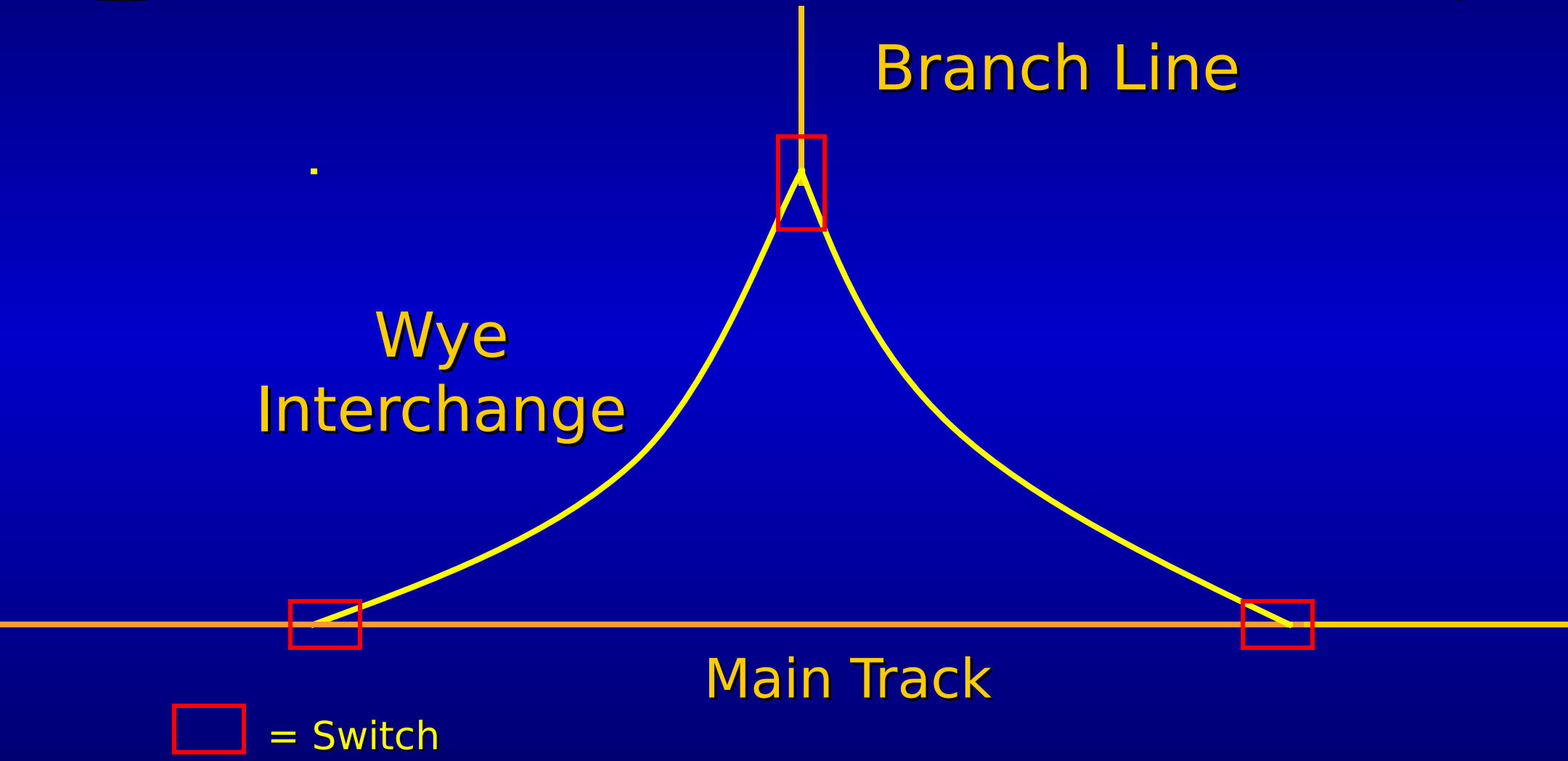
Switch

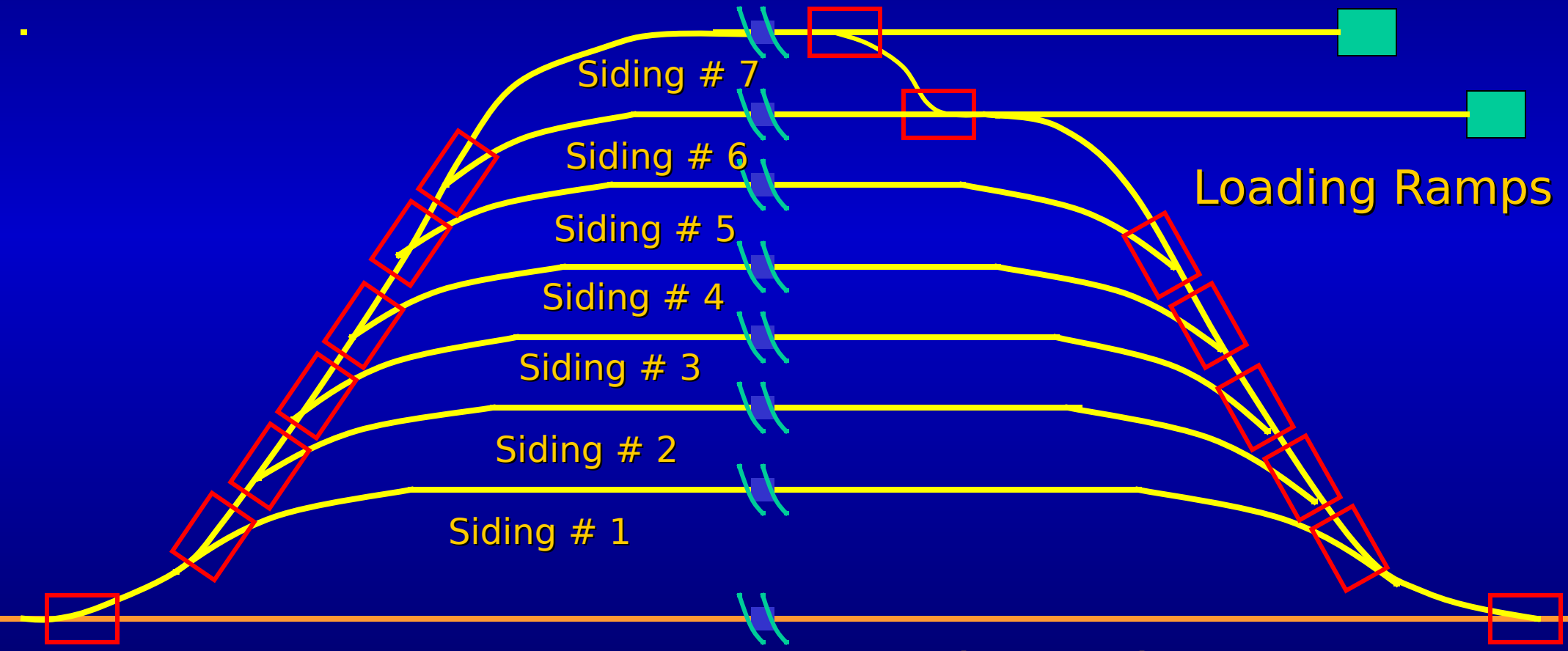


Main Track

Wye Layout



Combination Yard Layout



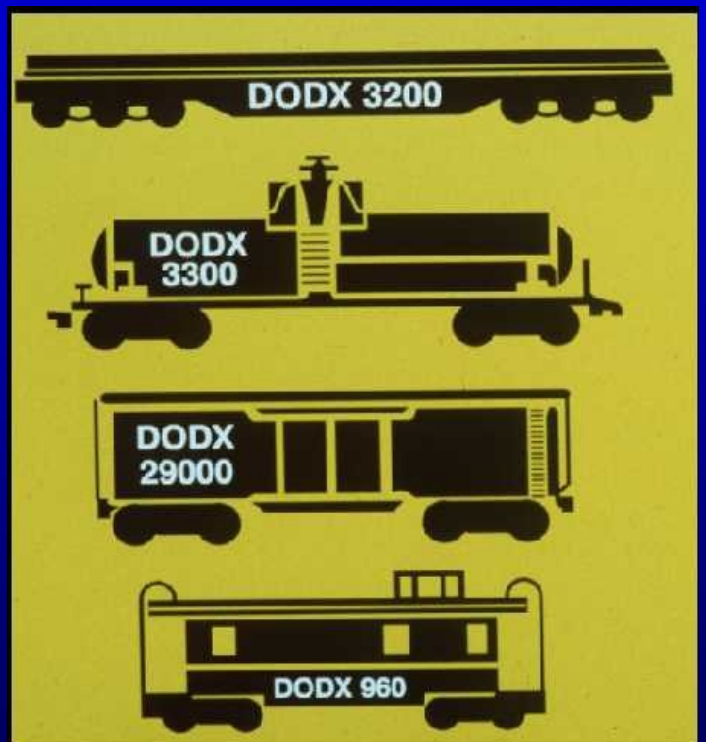
Hank's Yard (FEVA)

Interchange

- **Interchange point** - area where trains are handed off to other carrier

Defense Freight Rail Interchange Fleet (DFRIF)

- Mainly used for over-dimensional equipment or to meet deployment time constraints



Flatcars:
General Purpose 1477
Special Purpose 139

Tank cars:
General Purpose 375
Special Purpose 18

Boxcars:
Special Purpose 30

Refrigerated 9

Misc cars:
Escort Cabooses 6
Guard Cars 5
Spec Lease 11

TOTAL DODX: 2070

ASMP Railcar Requirements

- Part of DFRIF - sited at PPPs to support rapid deployment (restrictions on use)
- DA DCSOPS sets priority on which installation get railcars first.
  - Ft Stewart 233
  - Ft Hood 185
  - Ft Carson 85
  - Ft Campbell 236
  - Ft Benning 62

AMCCOM Installations:
198 cars at
12 Ammo Plants

Ref: FORSCOM/ARNG Reg 55-1, p.31

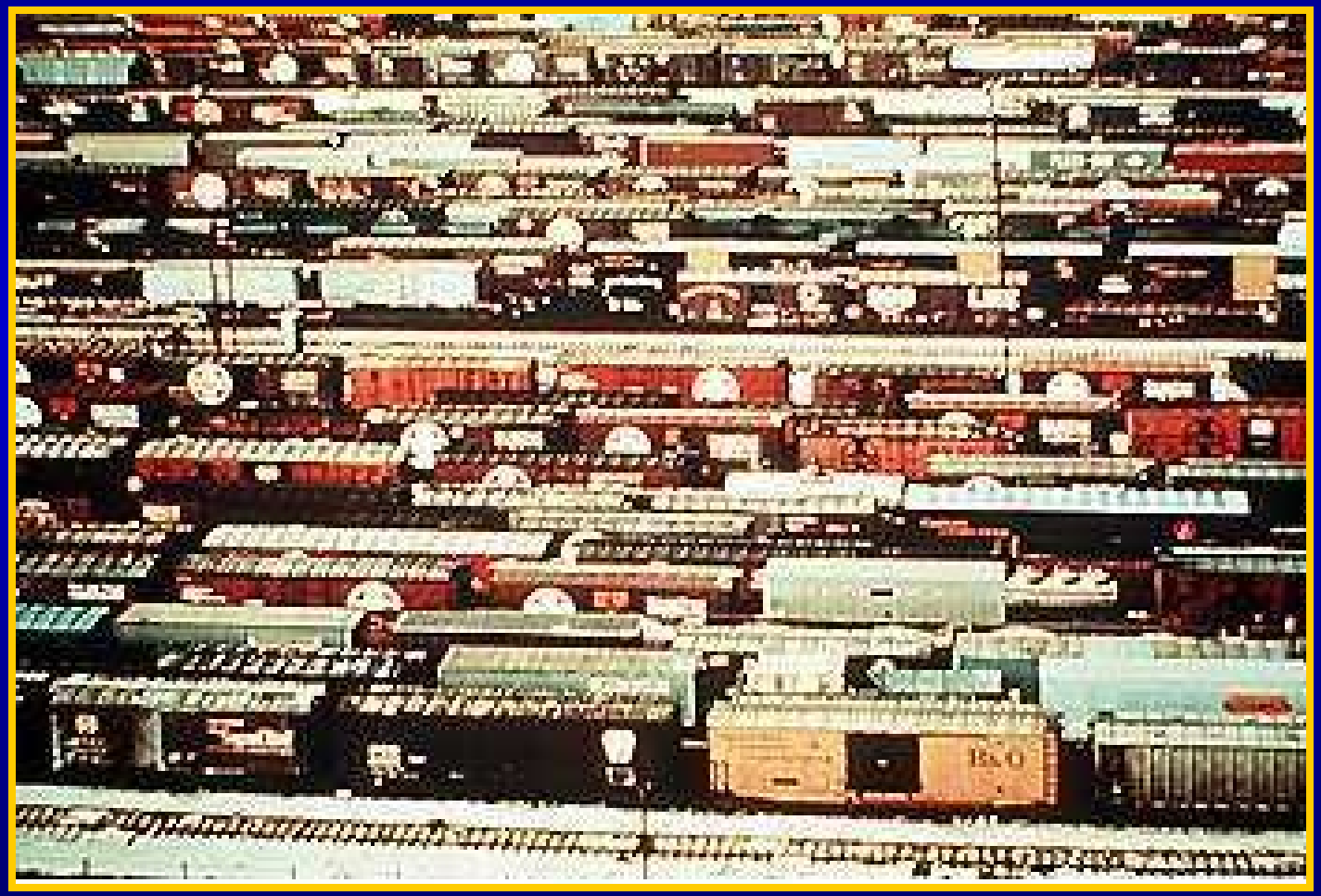
SDDC Managed Railcars

566 -140 TON FLAT RAILCARS
335 -100 TON FLAT RAILCARS
* PRE-ASSIGNED IN ORDER TO RESPOND TO CONTINGENCIES

RAIL FLEET:

TANK CARS:	375
FLAT CARS:	1,477
BOX CARS:	30
REEFERS:	9
CABOOSES:	6
SCHNABEL:	2

Railway Equipment



Flat Cars

- Ideal for transporting military cargo and vehicles
- Equipment may be carried on DOD or common carrier flatcars

DODX 40000 Series 68’ Flat Car

- 40000 Series
  - 140 Ton Capacity
  - Only DODX railcar to move M1A1

DODX 41000 Series 68’ Flat Car

- 41000 Series
  - 85-100 Ton
  - Most have spanners, chains & container pedestals

DODX 42000 Series 89’ Flatcar

- 42000 - Series
  - 85 -100 ton capacity
  - Used for wheeled, light tracked vehicles & containers
  - Chain tie-down with lift up container pedestals

DODX 42000 Series 89’ Flatcar (Cont)

- Some have no integral spanners

Conventional Flat Cars

- Wire rope tie-down
- Block & brace
- Stake pocket sides

Chain Tie-down Flat Cars

- Woode n or steel deck
- Center or center and

Ref: FM 4-01.011,p.3-3

Types of Flat Cars

- Flatcars without side rails are easier to load, and wider vehicles more easily accommodated

Ref: FM 4-01.011,p.3-3

Bi-level Flat Cars

- Taller vehicles on upper level

Multilevel Flat Cars

- Ramps are used to load the upper levels
- Small wheeled vehicles, protected

Trailer on Flatcar (TOFC)

Container on Flatcar (COFC)

MHE Support (TOFC)

Boxcars

- US Boxcars in domestic service have a capacity of about 100k lbs., or over 3900 cu feet.
- Ideal for commodities requiring protection from weather or susceptible to pilferage: foodstuffs, medicines, electronics, spare

Tank Cars

Gondola Cars

- If car sides are necessary to keep bulk loads from shifting, use gondola cars

Conex

Hopper Cars

- Cars can be either covered or open at the top

- Used for transporting loose bulk commodities like gravel and coal

Switch Engines

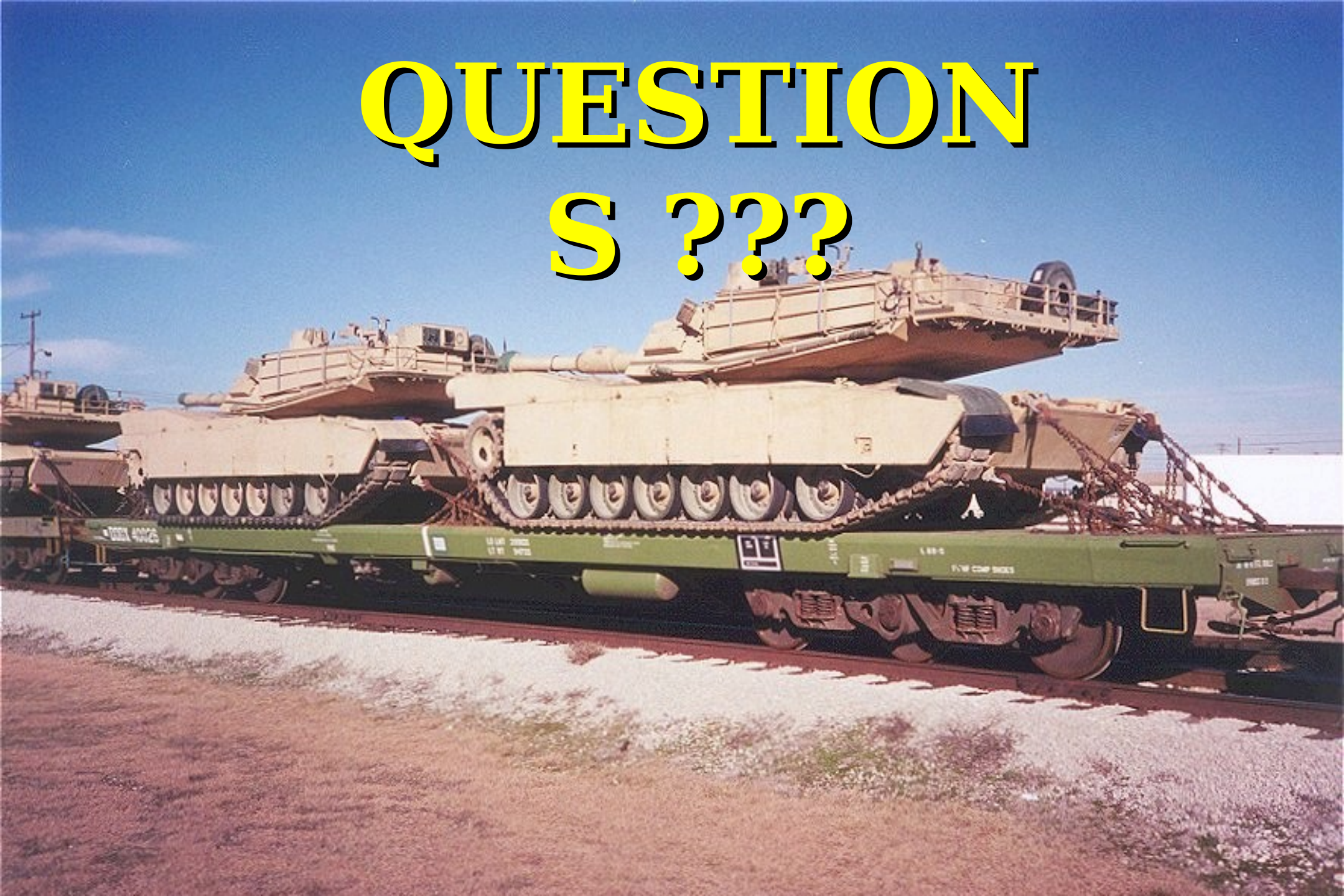
- Used to switch rail cars in and out of a loading area.

Line Haul Locomotives

Caboose

- Not used on civilian trains
- Only used when escort required


SUMMARY


QUESTION
S ???

On Learning

On Learning

Question 1: What enhanced rail deployment capability does the Defense Freight Rail Interchange Fleet (DFRIF) provide?

Answer 1: Pre-positioning of railcars at selected installations provides flexibility to quickly load military equipment for deployment operations.

On Learning

Question 2: What type of railcar is ideal for transporting wheeled and tracked vehicles and oversized equipment?

Answer 2: Flat Cars

Rail Loading Requirements and Procedures

Preparing Unit Equipment for Rail Movement

- The deploying unit is responsible for preparing its vehicles and equipment for rail movement

General Guidance

- Don’t carry ammunition and fuel (as a secondary cargo) together on any vehicle of a rail movement
- Place warning placards on all sides of hazardous cargo loads
- Load unit equipment in organic vehicle to the greatest extent possible. Secure equipment loads properly
- Lock and seal sensitive materials (arms/amm

Ref: FM 4-01.011,p.3-3 and FORSCOM/ARNG Reg 55-1, p.35-36

Preparing Vehicles Prior to Loading

- Vehicle Preparation Requirements:
  - All lifting and tiedown shackles attache
  - vehicles
  - Fuel tanks no more than 3/4 full
  - Canvas and bows removed or banded
  - Check all tire inflation and condition

Preparing Vehicles Prior to Loading (Cont)

- Old series vehicles (eg HMMWV) roll down side windows, lower windshields, turn mirrors inward

- New series vehicles (eg PLS, HET, HEMTT) windows must remain up because of potential rail damage to electronic transmission and central tire inflation systems. Protect with plywood, cardboard or double layer of bubble wrap

- Do not cover headlights, windshields or mirrors with tape

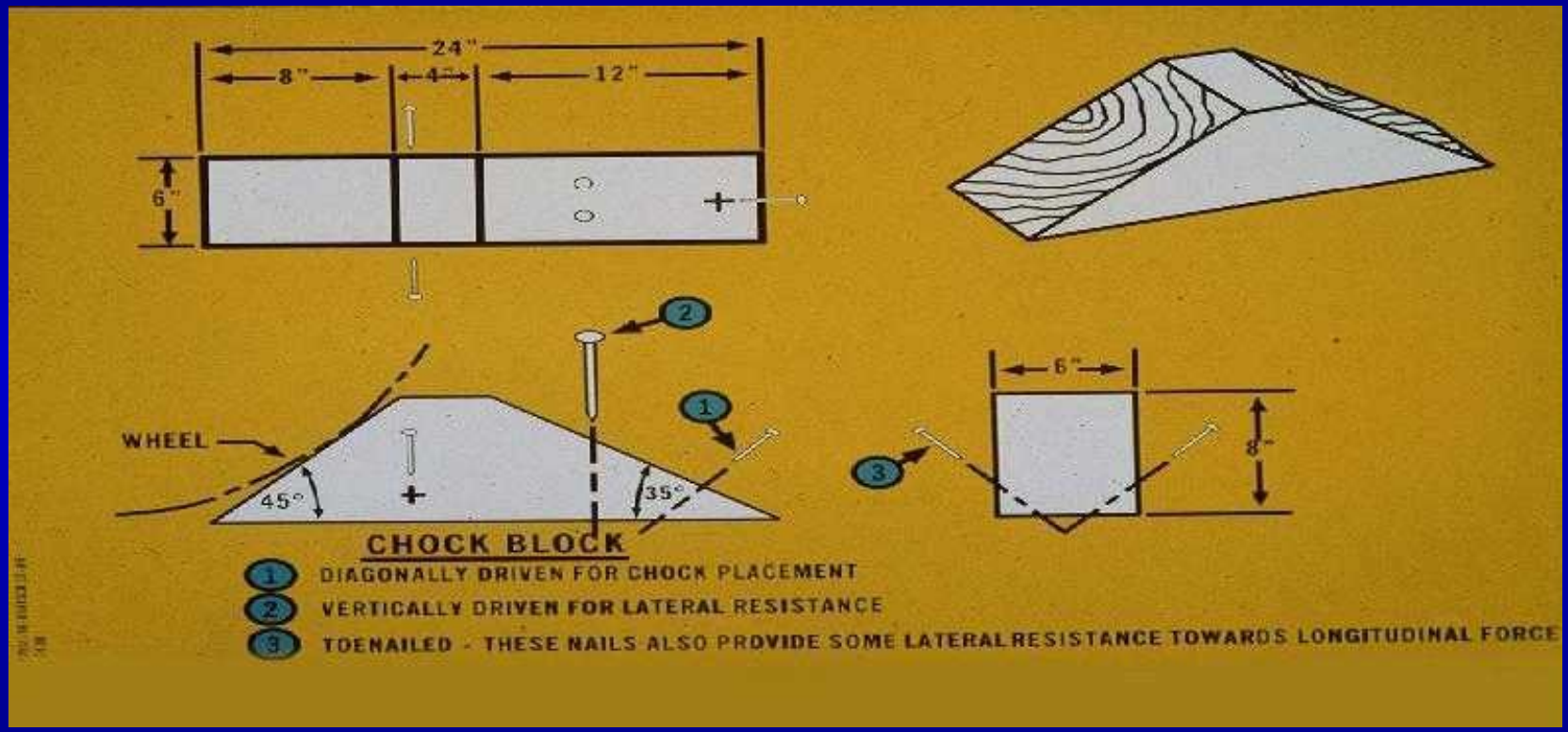
Ref: FM 4-01.011,p.3-3/4 and FORSCOM/ARNG Reg 55-1, p.35/3


TTDX 930456
CAPY 1300
LD LMT 135

Preparing Vehicle Prior to Loading (Cont)

- Reduce vehicle configuration based on information contained in movement order.
- Secure any materials or equipment.
- Bands must be approved by AAR.
- Ensure that hood latches are functional and secure.

Blocking and Bracing Materials



- Blocking & bracing references contained in both TM 55-2200-001-12 & SDDCTEA Pam 55-19

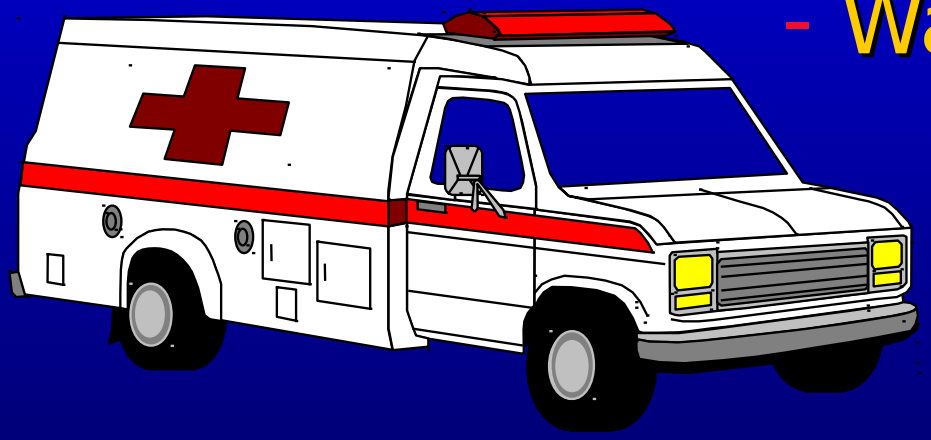
Rail Site Facilities

Lighting

Medical support

Rail Site Facilities (Cont)

- Command and control facilities
- Lighting
- Latrine facilities
- Warming Tent
- Messing
- Medical support



Ref: FM 4-01.011,p.3-3/4

Safety Requirements

- Appoint Safety OIC or NCOIC and OIC conduct risk assessment before commencing loading
- Qualified and properly equipped medical personnel on site
- Brief all soldiers on established safety procedures prior to loading commencing:
  - All loading personnel MUST wear leather gloves and hard hats/helmets. Goggles and safety boots are also recommended.
  - For night loading ops, ensure adequate lighting and that personnel have reflector vests and flashlights
  - Personnel will not jump between or from railcars - use steps provided (running on railcars is also prohibited)
  - Do not crawl under or walk between railcars
  - Do not step or walk on the rails

Ref: FM 4-01.011,p.A-1

Safety Requirements (Cont)

- Never walk backwards on rail cars
- All vehicles being loaded/unloaded on a railcar must have a car guide (on the rail car in front of the vehicle) and two side guides (one on the ground on each side of the vehicle being loaded)
- Only the car guide gives instructions to the vehicle driver - side guides keep car guide advised of how close the vehicle is to the edge of the railcar
- Car guides escort vehicle onto ramp and railcar and must stay in clear view of the driver at all times

Ref: FM 4-01.011,p.A-1 and FM 3-35.4, p.H-

Safety Requirements (Cont)

- Car guide should stay one railcar ahead of the vehicle being guided. If a vehicle is already on railcar assume a secure and observable position on or beside the parked vehicle so that you cannot be pinned between the moving and parked vehicles

- Car guides must use uniform hand signals (drivers must also understand this signals)

Ref: FM 4-01.011,p.A-1/2

Safety Requirements (Cont)

- Ensure spanners are properly aligned, set and secured before a vehicle drivers over them. However, do not stand beside spanners when a vehicle is driving over them
- Reduced speed is used when driving vehicles onto railcars
- Personnel stay clear of main track and railcars when vehicles are moving on them (unless a designated guide)
- No sleeping in or around rail cars
- Be aware of overhead electric power lines
- Display a blue flag on the track behind the last car being loaded so that o

Ref: FM 4-01.011,p.A-1/2 and FM 3-35.4, p.H-

Rail Site

- Rail site must be clean and free of debris.
- Ensure spanners are available.
- Ensure that MHE is on site for equipment tha requires MHE support

Inspection of Railcars

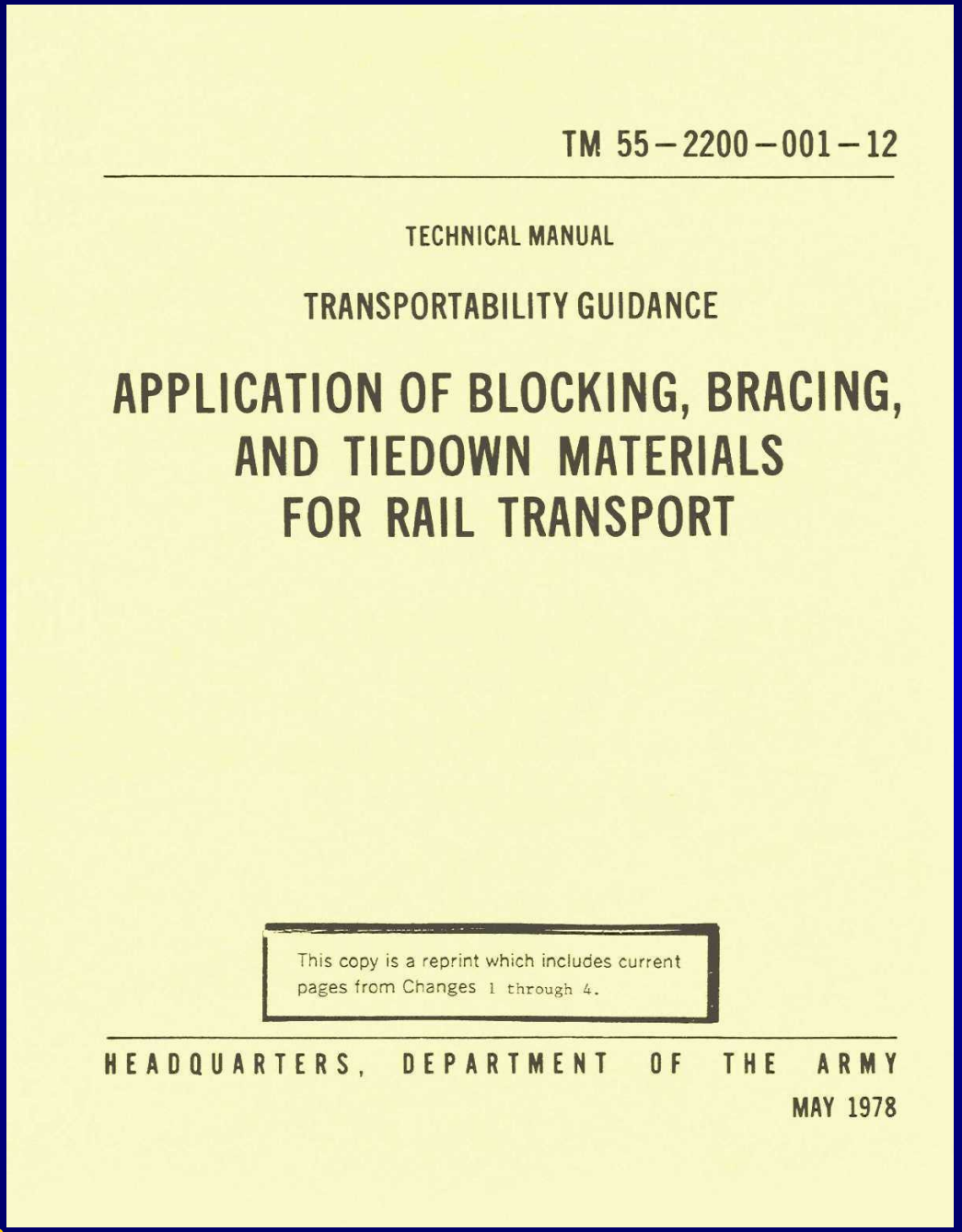
- Rail cars are inspected prior to being positioned at final loading locations
- Purpose of inspection is to determine the cars suitability for the intended equipment/vehicle loads
- After railcars are accepted, Military accepts full responsibility to comply with AAR rules

Inspection of Railcars (Cont)

- Deploying unit and ITO representative inspect railcars prior to loading equipment. Checks include:
  - Doors on closed cars open and close and interior is free of debris
  - Open car decks are free of residue and old blocking & bracing materials
  - Chains are present and serviceable on chain rail cars

CONUS GENERAL RAIL LOADING RULES

- Excerpts of AAR Rules contained in TM 55-2200-001-12
- Contains Tie-down Information for Mil Vehicles & Equip
- Abide by host nation rail rules and regs OCONUS



TM 55-2200-001-12

TECHNICAL MANUAL

TRANSPORTABILITY GUIDANCE

APPLICATION OF BLOCKING, BRACING, AND TIEDOWN MATERIALS FOR RAIL TRANSPORT

This copy is a reprint which includes current pages from Changes 1 through 4.

HEADQUARTERS, DEPARTMENT OF THE ARMY

MAY 1978

Ref: FM 3-35.4, p.H-3

AAR Loading Rules

- The AAR makes no provision to protect cargo from the elements or other forms of damage

AAR Loading Rules (Cont)

- The loading rules are applicable to both the railroad and the ITO/Unit.
  1. Railcar load and weight limits must not be exceeded

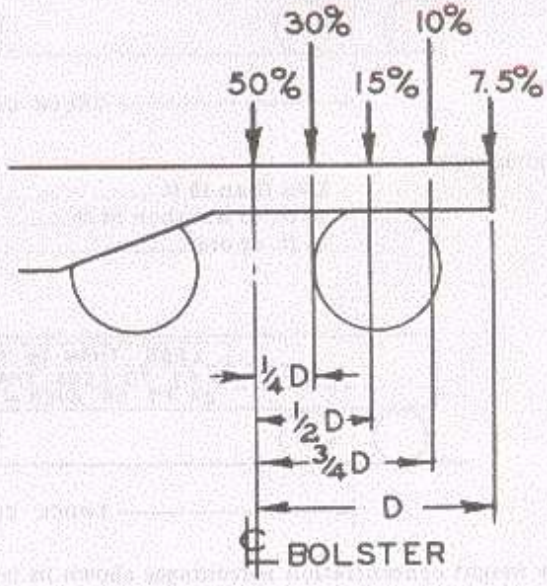
Ref: FM 3-35.4, p.H-3

AAR Loading Rules (Cont)

- **One-half the load limit of the railcar must not be exceeded on any axle**

Permissible Concentrated Load
Percent of Stenciled Load Limit

50
80
15
10
7.5



SKETCH 2
LOAD CONCENTRATED AT SPECIFIC POINTS

Ref: FM 3-35.4, p.H-3

AAR Loading Rules (Cont)

- Balance load evenly on car
- When loading large and heavy items not covered by rules, load largest dimensions and heaviest weight on the floor to prevent tipping
- Items having a high center of balance (CB) must be secured to prevent tipping while in transit

Ref: FM 3-35.4, p.H-3

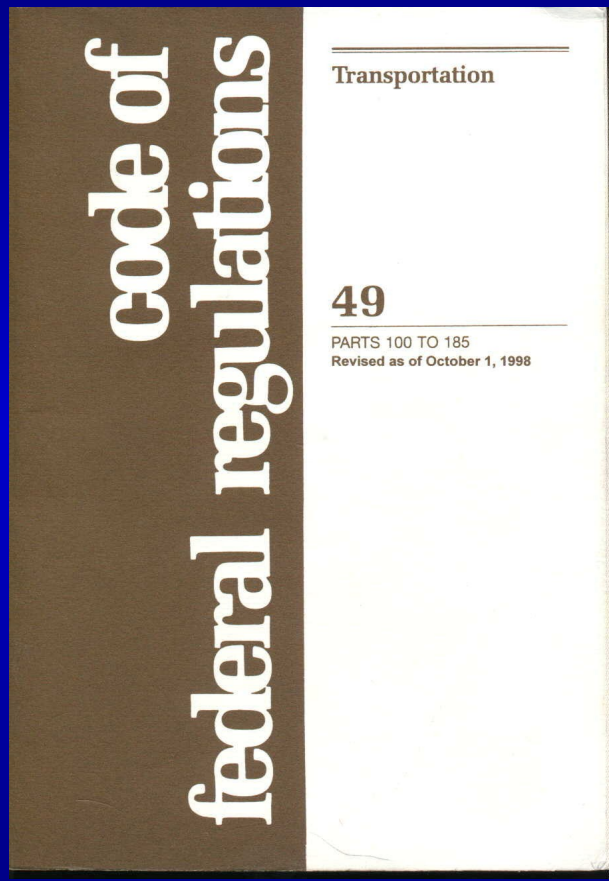
AAR Loading Rules (Cont)

- Loads must be adequately secured to the railc
- Railcars must be suitable for the safe transportation of the load, and the load must not exceed the width and height restrictions over the proposed route

Ref: FM 3-35.4, p.H-3

HAZMAT

- IAW Title 49, CFR and DTR Part II
- Consider exclusions, marking and placards
- If exemption required SDDC will request from carrier
- Carrier provides certificate needed for movement of Class 1 explosives
- Rail cars used for shipment of explosive must be properly sealed with an Army approved seal



Ref: FM 3-35.4, p.H-4

SENSITIVE/CLASSIFIED MATERIAL

- When shipping sensitive or classified material by rail, commanders may be required to provide guards or escorts
- Cargo guards and escorts maintain surveillance over the military equipment during the journey and notify railroad personnel of any problems
- Escort supervisor given copy of trip itinerary (interchange points, stops etc)
- Escorts have portable radios and are given safety and ROE briefs prior to departure

Ref: FM 3-35.4, p.H-4 and FM 4-01.011, p.A-

ESCORT/GUARD DUTIES

- Detailed in Appendix A of FM 4-01.011, *Unit Movement Operations*
- Conduct cargo check one to two hours before departure
- Cargo checks whenever train stops for 30 minutes or more (check for cargo shifting, tampering [eg, missing seals], and missing or damaged cargo)
- During stops guards staggered along both sides of the train
- Incident reports to SDDC, immediately
incidents that could delay a shipment er

Ref: FM 4-01.011, p.A-3/4

Preparation of Railcars

- Deploying unit check chain tie-downs and positions them on the railcar deck to avoid having to reposition chains after vehicle are loaded.

- Unused chains are placed in the channels to prevent them being damaged.

- Ensure railcar brakes are applied and chock rail wheels to prevent the railcars shifting

Ref: FM 3-35.4, p.H-2

Vehicle and Equipment Loading

- Prior to loading, stage vehicles in the order th will be loaded
- Most common and expeditious method for loading vehicles on flatcars is the “circus” method
  - Flatcars equipped with spanners used as roadbed (spanners adjusted as required for each vehicle type)
  - All vehicles loaded on rearmost car, then moved forward t

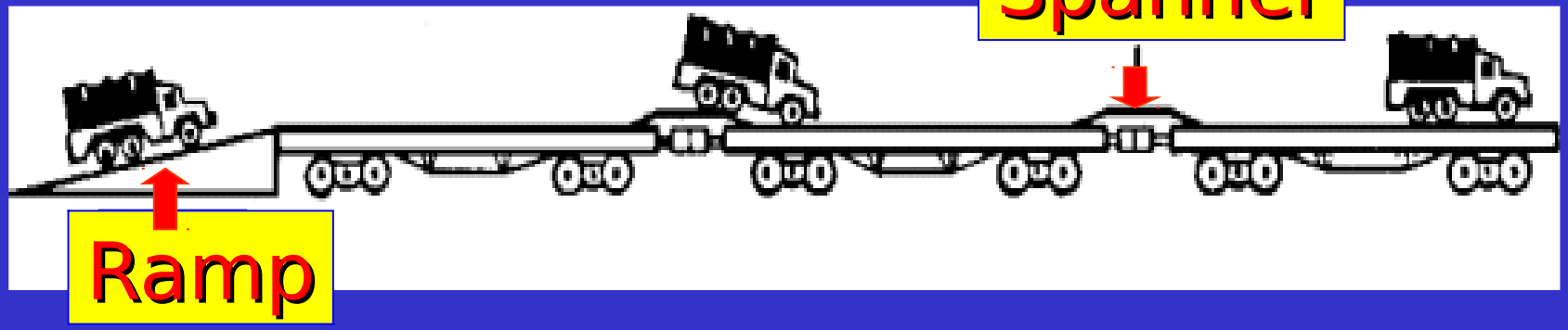
Ref: FM 4-01.011,p.3-3 and FM 3-35.4, p.H-

Vehicle and Equipment Loading (Cont)

Vehicles being loaded by the “circus” method

Loading

- Prior to loading the vehicle onto railcar, all personnel with the exception of the driver must dismount vehicle



- Rail guide should be one car ahead of vehicle or positioned not to be caught between vehicles

Loading (Cont)

- Ensure spanners are properly positioned & capable of supporting the heaviest load anticipated
- At least 12” of spanner should overlap the rail car deck
- Most track vehicles don’t require spanners between rail cars
- When loading vehicle between railcars of uneven deck heights, be sure to place dunnage under the spanner to prevent it from slipping

Dunnage

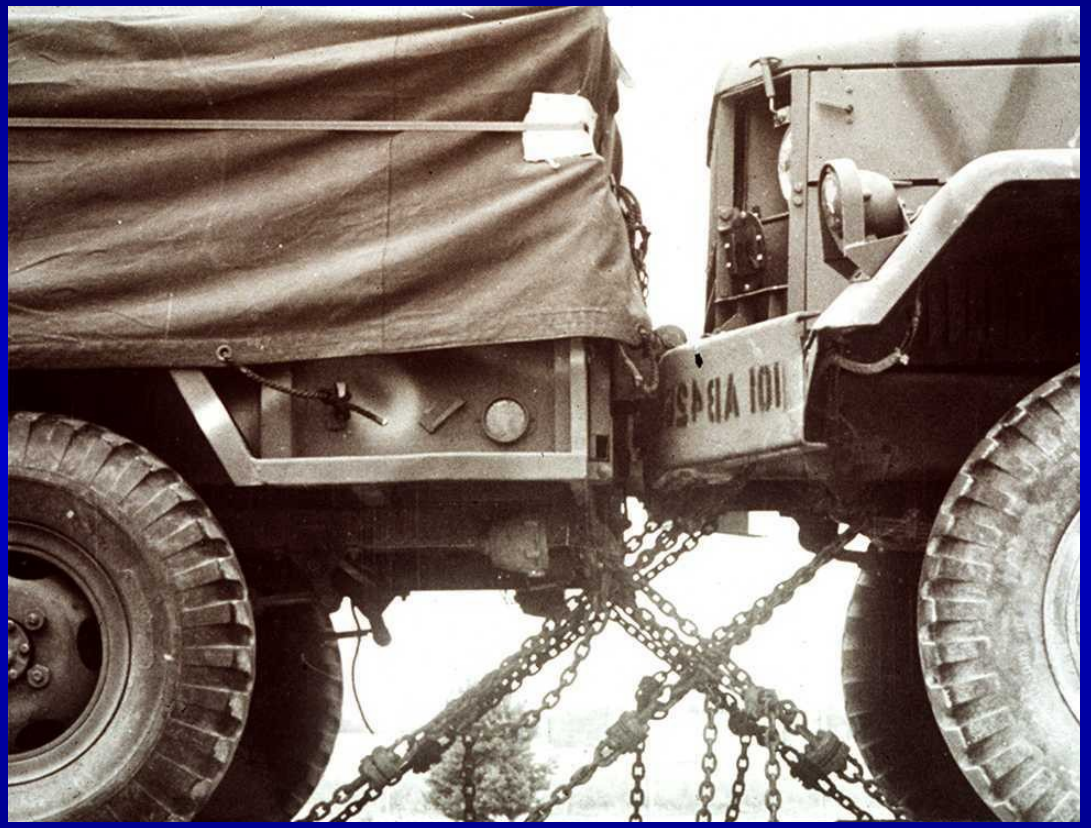
Ref: FM 3-35.4, p.H-2

Loading (Cont)

- When driving on spanners, maintain a constant speed.
- Avoid jamming on brakes or reversing

Vehicle Spacing

- Vehicles require a minimum of 10 inches of space between vehicles.
- Ensure sufficient space around top mounted brake wheels for operation



Wrong spacing

Ref. TEA Pam 55-19 Pg. 2

Loading Multilevel Cars

- Exercise caution when loading vehicles on or moving vehicles through multilevel rail car Check deck heights

- Decks may be different heights causing vehicle to strike the upper deck.

Setting Vehicles

- After positioning vehicle on railcar, vehicle operator:

  Places transmission in neutral, secure with w

  Sets parking brake, secure with wire

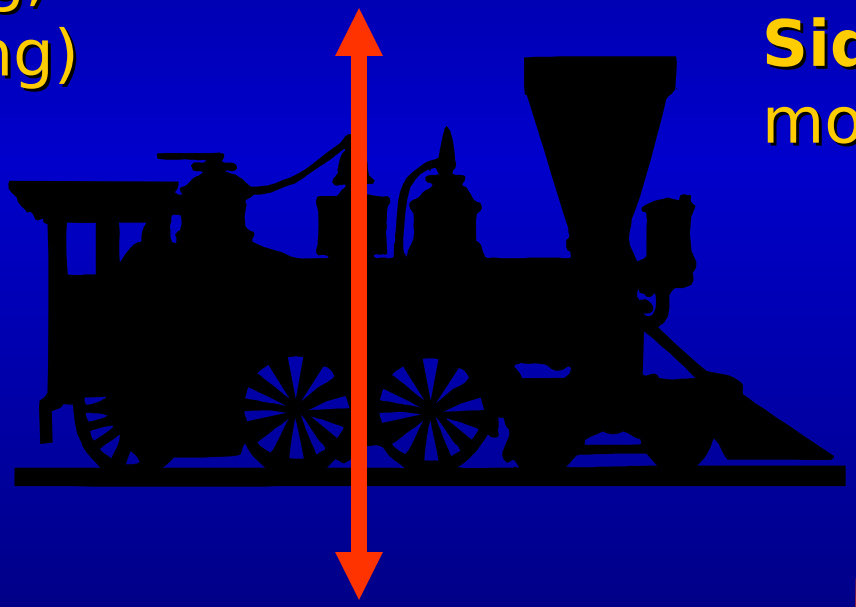
  Places battery switches in “off” position

Ref. TEA Pam 55-19 Pg. 1-2

Force Applied to Railcar Loads

Front to back movement (coupling, start-up and stopping)

Vertical movement (dips in track)



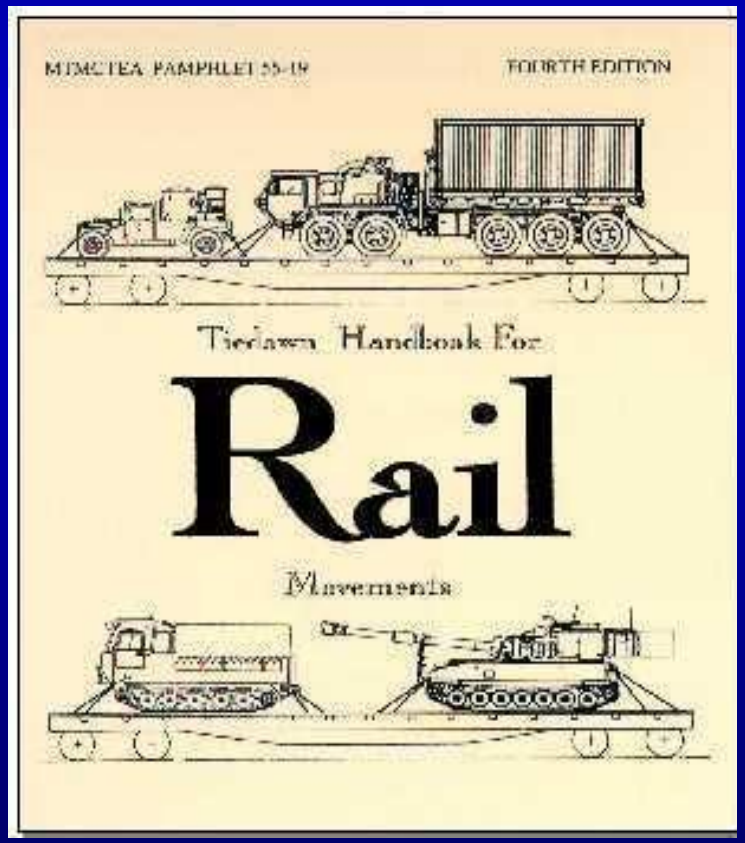
Side to side movement (curves)

THIS IS WHY WE TIE DOWN VEHICLES/EQUIPMENT

Tie-down Procedures

- When securing vehicles use these techniques:

  - Inspect chain assemblies and components (for damage, missing parts and proper operation)
  - Apply chains in pairs and equal numbers front and rear



Tie-down Procedures (cont)

- Ensure in turntable type winches that the chain is taken up on the underside of the ra

Backwards

Proper Position

Tie-down Procedures (Cont)

- Ensure proper wire or chain tension

  - Place tension on chain or wire rope to allow no more than one inch deflection when supporting the weight of a full grown man

Tie-down Procedures (Cont)

- Secure excess wire rope or chain to the tension bearing part of the wire rope.
- On chain devices, secure open-faced hooks to chain link with wire or nylon tie strap.
- Lock chain-tightening device with wire.
  - Turnbuckles must have jamnuts tightened wrench-tight using two wrenches

Tie-down Procedures (Cont)

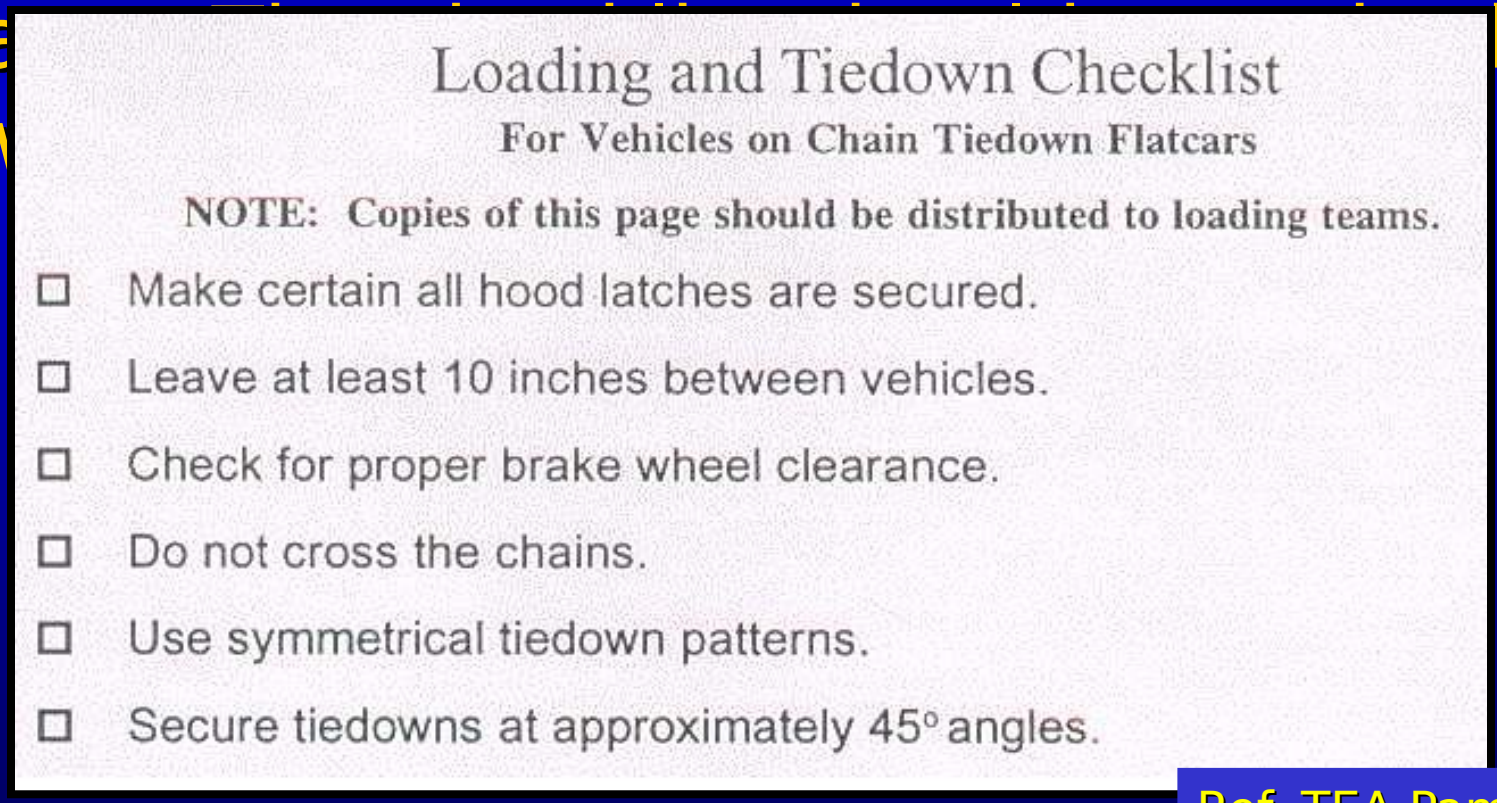
- Secure chain through tie-down points at forty-five degree angle
  - Pull chain tight as possible, ensuring that there are no twists or kinks, and secure chain hook to chain.

Tie-down Procedures (Cont)

- Hand tighten turnbuckles first, then continue to tighten with open end or crescent wrench until 1/8 inch of the rubber compression ring shows.
  - Store used chain assemblies in the rail car channel

Loading and Tie-down Checklist

- Checklists should be distributed to the loading tea he follo



Loading and Tiedown Checklist

For Vehicles on Chain Tiedown Flatcars

NOTE: Copies of this page should be distributed to loading teams.

- ☐ Make certain all hood latches are secured.
- ☐ Leave at least 10 inches between vehicles.
- ☐ Check for proper brake wheel clearance.
- ☐ Do not cross the chains.
- ☐ Use symmetrical tiedown patterns.
- ☐ Secure tiedowns at approximately 45° angles.

Ref. TEA Pam 55-19 Pg. 34

Loading and Tie-down Checklist (Cont)

- Checklist Cont:

- ☐ Seat and lock chain anchor or winch.
- ☐ Secure shackle in tiedown provision with wire tie or cotter pin.
- ☐ Pull chain tight and attach hook above the compression unit.
- ☐ Tighten chain.
- ☐ Use appropriate tool.
- ☐ Make sure chain is not kinked or binding.

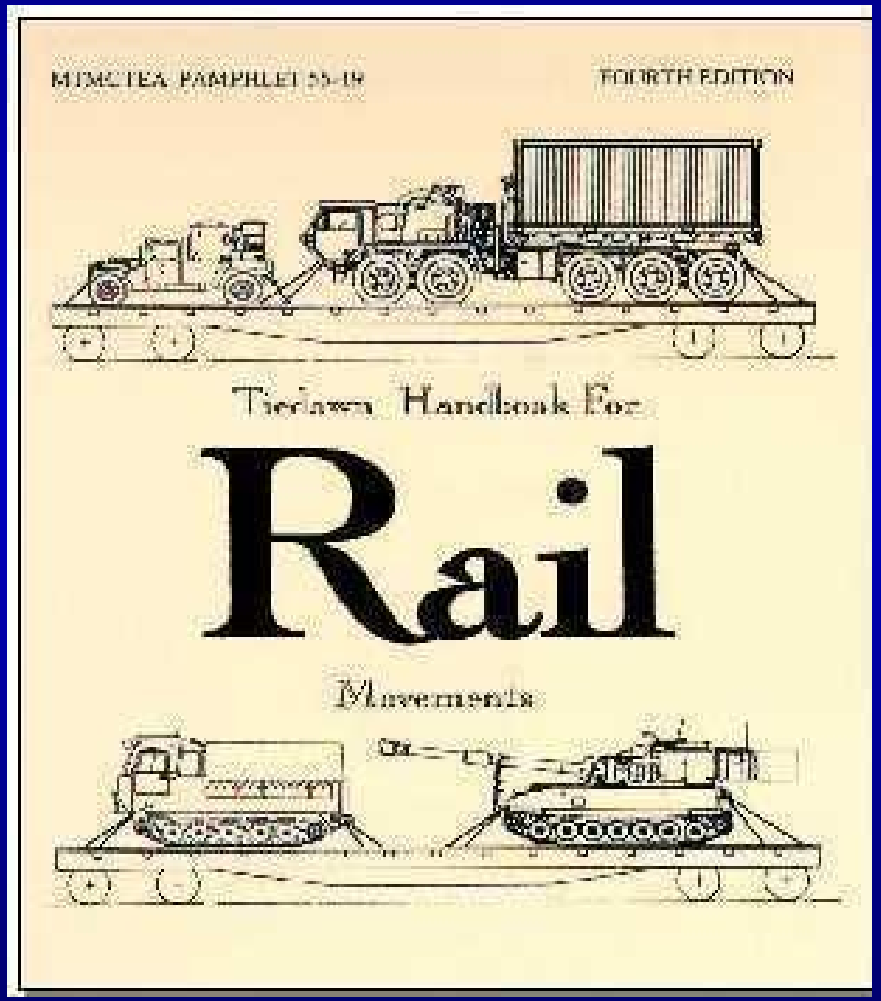
Loading and Tie-down Checklist (Cont)

- Checklist Cont:

- ☐ Secure hooks with wire or nylon tie straps.
- ☐ Make sure turnbuckles are wired or locked.
- ☐ Tighten jamnuts with two wrenches.
- ☐ Do not secure chains to axles or springs unless figure shows to.
- ☐ Make certain turrets and guns, radiator doors, side skirts, outriggers, crane booms, expansible van bodies, and so forth are secured from extending up or over the side of the flatcar.

TEA PAM 55-19

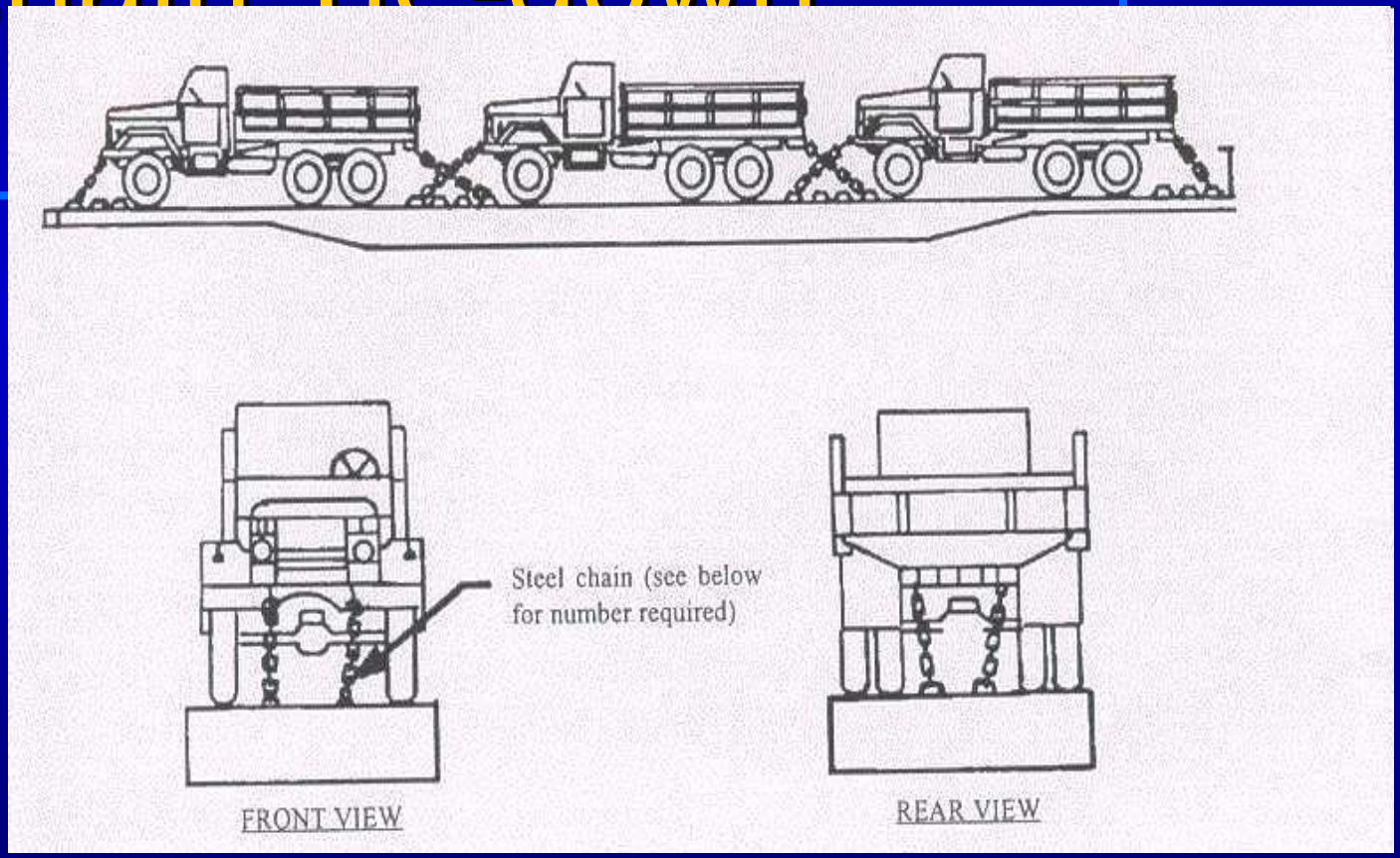
- **App A:**. Trucks and Trailers
- **App B:** Tracked and Wheeled Armored Vehicles
- **App C:** MHE & Construction Equip. & Non-Vehicles
- Distribute check lists for tie-down procedures on page 34 and for 40000-series Flatcars



Trucks up to 80,000 lbs -- Chain Tie-down

- Alloy Steel Chain 3/8” and ½

- TEA PAM 55-19 App A page A-2

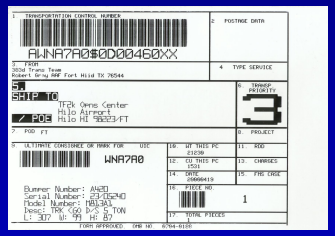


Final Inspection

- Final inspection is made after the railcars are loaded to ensure that the contents are loaded, blocked and braced in compliance with AAR loading rules.

- The rail representative is the final approving authority for

Intransit Visibility



MSL

Reader

TC-AIMS II

ITV Regional Server

GTN

Ref: FM 4-01.011,p.3-2

Unloading

- Railcars off-loaded promptly at POE to allow return for further use and to avoid demurrage or detention charges (usually within 48 hrs)
- Units must remove blocking, dunnage and banding from unloaded cars before release to the carrier

Ref: FM 4-01.011,p.3-4 and FM 3-35.4, p.H-4


SUMMARY


QUESTIONS ???

On Learning

On Learning

Question 1: What is the procedure used in the “circus loading” of unit equipment on railcars?

Answer 1: The “circus loading” method uses flatcars as a roadbed with spanners between the railcars. Vehicles are loaded from the rear most railcar and then moved forward to their assigned locations.

On Learning

Question 2: What is the minimum amount of space that must be maintained between vehicles that are secured to the railcar deck?

Answer 2: AAR rules require a minimum of 10 inches between vehicles.

On Learning

Question 3: What reference provides a checklist for loading and tying down unit equipment on railcars?

Answer 3: SDDC TEA Pam 55-19, *Tiedown Handbook for Rail Movements*


FINAL REVIEW


Next Lesson ....


TAKE A BREAK!
DTTX 97012
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